



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/578,871	05/11/2006	Hiroshi Sato	060347	3219
23850 7590 06/04/2009 KRATZ, QUINTOS & HANSON, LLP 1420 K Street, N.W. Suite 400 WASHINGTON, DC 20005				
EXAMINER				
UHLER, CHRISTOPHER J				
ART UNIT		PAPER NUMBER		
2832				
MAIL DATE		DELIVERY MODE		
06/04/2009		PAPER		

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

### Office Action Summary

**Application No.**

10/578,871

**Applicant(s)**

SATO, HIROSHI

**Examiner**

CHRISTOPHER UHLIR

**Art Unit**

2832

**Period for Reply** -- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 16 March 2009.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-6, 9 and 10 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-6, 9 and 10 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-8508)
- Paper No(s)/Mail Date \_\_\_\_\_

- 4) ☐ Interview Summary (PTO-413)
- Paper No(s)/Mail Date \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_

**DETAILED ACTION**

***Continued Examination Under 37 CFR 1.114***

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on March 16, 2009 has been entered.

Claims 7 and 8 have been canceled without prejudice. Claims 1-6, 9, and 10 are pending and an action on the merits is as follows.

Applicant's arguments with respect to claims have been considered but are moot in view of the new ground(s) of rejection.

***Claim Rejections - 35 USC § 112***

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. Claims 1-6, 9, and 10 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

**Claims 1 and 4** include the limitation that a detector is used for "detecting whether or not a key is already depressed at a time when a played key different from the depressed key is played". Since the detector determines whether or not a key is

depressed, the detected key may not be depressed. In such a case, there would be a lack of antecedent basis for 'the depressed key'. This limitation is interpreted as stating detecting whether or not a reference key is already depressed at a time when a played key different from the reference key is played".

These claims further include the limitation "the played key is played when not every other key of the keyboard is already depressed". It is unclear if applicant intends this limitation to mean that a key is played only when all non-adjacent keys are not depressed, or if a key is played only when all remaining keys are not depressed simultaneously. For examining purposes, this limitation is interpreted as meaning "the played key is played only when all remaining keys are not depressed simultaneously".

**Claims 2, 3, 5, 6, 9, and 10** depend on claims 1 or 4 and therefore inherit all claimed limitations of the base claims. These claims do not further clarify the deficiencies of claims 1 and 4.

#### ***Claim Rejections - 35 USC § 102***

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

5. Claims 1-6, 9, and 10 are rejected under 35 U.S.C. 102(b) as being anticipated by Koseki et al. (US 5,804,751).

**Regarding claims 1 and 4**, Koseki et al. discloses a resonance generation

device and method of an electronic musical instrument including a keyboard (1) having keys and a digital signal processing unit (column 3 lines 43-47), for artificially creating a resonance. A key depression state detector is disclosed to detect and determine whether or not a reference key is already depressed through key switches (5e) (column 4 lines 11-18) at a time when a played key different from the reference key is played, where the played key is played when all remaining keys are not depressed together (column 4 lines 60-64). A key is typically played when all remaining keys are not depressed simultaneously.

Koseki et al. further discloses a process for detecting a specific relation between played keys and depressed keys and a generator for generating musical sound of a predetermined musical sound based on the specific relation between said played key and reference key (column 2 lines 32-40).

**In reference to claims 2 and 5**, Koseki et al. discloses a device and method as stated above, where monaural resonances are generated through the use of a single analog signal and output through speakers (column 3 lines 47-51). Koseki et al. further discloses a variation in volume (sound intensity) according to the depressed key (column 4 lines 18-21).

**In reference to claims 3 and 6**, Koseki et al. discloses a device and method as stated above where the volume of the resonance based on the relation between the played key and the reference key is controlled (column 5 lines 65-67).

**In reference to claims 9 and 10**, Koseki et al. discloses a device and method as stated above, further including a computer program product including a computer

readable recording medium (column 3 lines 62-65) for executing a resonance generation method of an electronic musical instrument

### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to CHRISTOPHER UHLIR whose telephone number is (571)270-3091. The examiner can normally be reached on Monday-Thursday 8:00am-5:30pm EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Walter Benson can be reached on 571-272-2227.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/CHRISTOPHER UHLIR/  
Examiner, Art Unit 2837  
May 18, 2009

Application/Control Number: 10/578,871  
Art Unit: 2832

Page 6

/Jeffrey Donels/  
Primary Examiner, Art Unit 2832